



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

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In re the Appellant:

Appeal No.:

Isamu OHSITA et al.

Group Art Unit: 2879

Application No.: 10/620,354

Examiner: Anthony T. PERRY

Confirmation No.: 8911

Attorney Dkt. No.: 107156.00193

Filed: July 17, 2003

For: ORGANIC ELECTROLUMINESCENT DISPLAY DEVICE

REPLY BRIEF UNDER 37 C.F.R. §41.41(a)(1)

Date: November 26, 2007

I. INTRODUCTION

The Appellants have received an Examiner's Answer dated September 24, 2007, in the above-referenced appeal. Pursuant to 37 C.F.R. §41.41(a)(1) and MPEP §1208, Appellants respectfully submit this Reply Brief.

II. SUMMARY

This paper is submitted as part of an appeal from the rejections set forth in the final Office Action dated January 5, 2007, in the above-referenced application. The issue on appeal is whether Claims 4-8 and 10-16 are unpatentable over Ogura et al. ("Ogura") in view of Kobayashi et al. ("Kobayashi"), and further in view of Mattheis.

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III. ISSUE IN REPLY BRIEF

A. 35 U.S.C. §103(a) Rejection of Claims 4-8 and 10-16

In the Examiner's Answer dated September 24, 2007, the Examiner states that Ogura teaches an organic electroluminescent display including a plurality of pixels located above a substrate (1001), wherein each pixel is formed by two light emitting elements that produce only two different colors of predetermined chromaticity values, wherein each light emitting element is formed by interposing a luminescent layer (1004) containing organic electroluminescent materials between a pair of electrodes (1002, 1006), and at least one pair of electrodes that include a plurality of independent array patterns to the light emitting elements. While the Examiner again notes that Ogura teaches the different colors can be blue and yellow, the Examiner again admits that Ogura fails to expressly teach or suggest that the two different colors are mixed to produce a white color.

Appellants again note that Claim 16 recites a display device having, among other features, a part of the colors falling within the line segment produces colors falling within a circular area of a 0.1 radius with its center in a pure white coordinate (0.31, 0.316) in the CIExy chromaticity diagram. Appellants respectfully note that Ogura fails to teach or suggest such a feature. Appellants further note that the Examiner essentially admits Ogura fails to teach this feature as Ogura does not appear to be applied for teaching the feature of a part of the colors falling within the line segment produces colors falling within a circular area of a 0.1 radius with its center in a pure white coordinate (0.31, 0.316) in the CIExy chromaticity diagram.

While Ogura teaches an organic EL panel capable of two-color light emission, Appellants respectfully point out that since Ogura's display panel fails to have "a part of the colors falling within the line segment which produces colors falling within a circular area of a 0.1 radius with its center in a pure white coordinate (0.31, 0.316) in the CIExy chromaticity diagram," Ogura's two-color light emission is merely capable of producing a relatively low level display.

In contrast, the display device recited by Claim 16 includes "a part of the colors falling within the line segment which produces colors falling within a circular area of a 0.1 radius with its center in a pure white coordinate (0.31, 0.316) in the CIExy chromaticity diagram." Therefore, the invention recited by Claim 16 provides a display panel that produces a relatively high quality two-color light emission that effects a high quality quasi-color which very nearly produces a full color display.

Moreover, Appellants respectfully disagree with the assertion made by the Examiner that in Figure 6 and paragraphs [0166] – [0168] Ogura supposedly teaches an active matrix having independent array patterned electrodes. Appellants respectfully submit the Examiner's assertion is factually erroneous. First of all, Figures 6A and 6B of Ogura merely teach or illustrate diagrams showing the process of manufacturing a pixel TFT and driver circuit TFTs. The Examiner then asserts that Ogura teaches a light emitting device can be applied to both active and passive matrix EL panels and cites paragraphs [0009] and [0056] of Ogura. Appellants note that in paragraphs [0009] and [0056], Ogura in fact teaches two specific methods of forming EL layers, neither of which is an active matrix having independent array patterned electrodes. A first method forms EL layers between two types of stripe shaped electrodes formed to be mutually

orthogonal relative to each other while the other or second method forms EL layers between pixel electrodes and opposing electrodes arranged in a matrix shape. The drawing (Figure 6) and paragraphs ([0166] – [0168]) cited by the Examiner for supposedly teaching an active matrix having independent array patterned electrodes actually teach the first method, that is, a method of forming EL layers between two types of stripe shaped electrodes formed to be mutually orthogonal relative to each other. Therefore, Appellants respectfully maintain that Ogura fails to teach “at least one electrode of the pair of electrodes comprises a plurality of independent array patterns corresponding to the light-emitting elements.”

Moreover, Appellants respectfully request that any formal response to the Reply Brief positively and accurately identify *where* in Ogura such a feature is taught as Appellants, after an exhaustive review of Ogura, are unable to locate such a teaching or suggestion.

The Examiner then cites Kobayashi for supposedly curing the admitted deficiency in Ogura of not specifically stating that the two different colors are mixed to produce a white color. In particular, the Examiner asserts that Kobayashi teaches blue and yellow organic light emitting elements having different emissive areas that are used in combination to form an organic EL white light source that has CIE coordinates of (0.33, 0.35). As such, the Examiner asserts it would have been obvious to one of ordinary skill in the art to provide the two light emitting elements emitting blue and yellow light, having different emissive areas, so that they can be operated at the same time to produce a white light source having an excellent CIE value. The Examiner cites column 9, line 62 to column 10, line 59 of Kobayashi for supposedly teaching blue and

yellow organic light emitting elements having different emissive areas that are used in combination to form an organic EL white light source that has CIE coordinates of (0.31, 0.36).

Appellants note that column 9, line 60 to column 10, line 39 do not teach that which is asserted by the Examiner as Examples 4 and 5 taught in the cited passage of Kobayashi do not teach or suggest blue and yellow organic light emitting elements having different emissive areas that are used in combination to form an organic EL white light source that has CIE coordinates of (0.31, 0.36). As such, Appellants presume the Examiner intended to assert that Example 7 (see column 10, line 40 to column 11, line 8) of Kobayashi teaches blue and yellow organic light emitting elements having different emissive areas that are used in combination to form an organic EL white light source that has CIE coordinates of (0.33, 0.35).

In this regard, Appellants note that Kobayashi teaches an organic EL white light source device containing two-color emission organic EL elements which may be used to simultaneously apply the same voltage to the common anode and the common cathode, resulting in only a white light emission. In other words, Appellants note that in order for Kobayashi to form the organic EL white light source having CIE coordinates of (0.33, 0.35) using blue and yellow organic light emitting elements having different emissive area, Kobayashi must simultaneously apply the same voltage to the common anode and cathodes.

Moreover, Appellants note that Kobayashi's Example 7 teaches a mixture of blue light and yellow light, which only produces a white light that can merely be used as illumination or a backlight, without being able to effect a blue light emission and a yellow

light emission. In other words, while Appellants concede that Kobayashi teaches mixing blue and yellow lights to produce a white light, Kobayashi fails to provide any non-white lights. In view of the above, Appellants respectfully disagree with the assertion made by the Examiner that the line segment between the blue and yellow colors in Kobayashi can provide a desired color displaying.

Additionally, Appellants note that Claim 16 recites that “at least one electrode of the pair of electrodes comprises a plurality of independent array patterns corresponding to the light-emitting elements,” making the present invention considerably different from Kobayashi, which has a common anode and a common cathode to which the same voltage are simultaneously applied, and thus can produce only a white light that can be used only as illumination or a backlight, without being able to show a line segment between blue and yellow.

Put simply, Kobayashi produces the white light using the blue and yellow colors by simultaneously applying a voltage to a common anode and cathode which why Kobayashi does not teach or suggest the different colors being driven by a different current or different voltage. Appellants presume this is why the Examiner fails to note that Kobayashi only discloses a light emission device in which the same voltage is simultaneously applied to two-color emission organic EL elements of the common anode and the common cathode, resulting in only a white light emission, without being able to show a line segment between blue and yellow.

Further, Appellants note that the Examiner states (see Examiner’s Answer, page 8 lines 12-14) that “the white light produced by mixing the blue light and yellow light falls along a line segment between the two points and within a circular area having a center

point of 0.31, 0.36 in the CIExy chromaticity diagram.” However, Appellants respectfully note that this only explains conditions set for a light emission device, rather than conditions for driving the device while the device is displaying an image.

Also, Appellants respectfully submit that since Ogura merely teaches emitting light of only two colors and Kobayashi teaches emitting only a white light due to Kobayashi’s electrode configuration and driving condition, one of ordinary skill in the art would never think of combining the teachings of Ogura with the teachings of Kobayashi or modify Ogura based on the applied teachings of Kobayashi. Besides, Appellants note that Ogura discloses a multi-color display device capable of freely changing the color of the line segment between blue and yellow while Kobayashi’s white light source fails to change the color of light emission on a line segment between blue and yellow (since only a white light is needed at this time). Accordingly, a combination of Ogura with Kobayashi would produce an effect that is exactly opposite to effect produced by the present invention recited by Claim 16.

As for Matthies, Appellants note the Mattheis merely teaches that different voltages V_0 , V_2 are applied to pixels at different times T_0 , T_2 . Therefore, Matthies fails to teach that two light-emitting elements are driven by different electric currents or voltages for achieving quasi-color displaying as is recited by Claim 16 of the subject application on appeal. Indeed, as stated by the Examiner (see page 8 of the Examiner Answer), Matthies drives light-emitting elements using different currents, but Matthies uses different currents only for maintaining the brightness of the elements, not for achieving a quasi-color display.

As such, Appellants respectfully contend that Claim 16 is not obvious in view of the teachings of Ogura, Kobayashi and Mattheis since one of ordinary skill in the art would not consider it obvious to combine and/or modify Ogura, which can only emit lights of two colors, with the teachings of Kobayashi, which can only emit a white light due to its electrode configuration and electrical driving conditions, and which are required to produce the white light of Kobayashi and are not compatible with the teachings of Mattheis.

Accordingly, Appellants respectfully submit that the art of record, i.e., Ogura, Kobayashi and Mattheis, alone or in any combination, fails to teach or suggest the features recited by Claim 16 and also fail to provide any motivation for combining the teachings thereof.

Therefore, Appellants respectfully submit that Ogura, Kobayashi and Mattheis do not render the invention recited by Claim 16 unpatentable.

Thus, Claim 16 should be deemed allowable over the combination of Ogura, Kobayashi and Mattheis.

Claims 4-8 and 10-15 depend from Claim 16. Therefore, Appellants respectfully submit that Claims 4-8 and 10-15 should also be deemed allowable for at least the same reasons Claim 16 should be deemed allowable, as well as for the additional features recited therein.


IV. CONCLUSION

In summary, therefore, and for all of the above-noted reasons, it is strongly contended that certain clear differences exist between the present invention as claimed in Claims 4-8 and 10-16 and the prior art relied upon by the Examiner. It is further contended that these differences are more than sufficient that the present invention would not have been obvious to a person having ordinary skill in the art at the time the invention was made.

In view of the above, it is respectfully requested that this Reply Brief be entered into this appeal, this Honorable Board of Patent Appeals and Interferences reverse the Examiner's decision in this case and indicate the allowability of application Claims 4-8 and 10-16.

In the event that this paper is not being timely filed, the Appellants respectfully petition for an appropriate extension of time. Any fees for such an extension, together with any additional fees which may be due with respect to this paper, may be charged to Counsel's Deposit Account No. 01-2300, **referencing docket number 107156.00193.**

Respectfully submitted,



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